

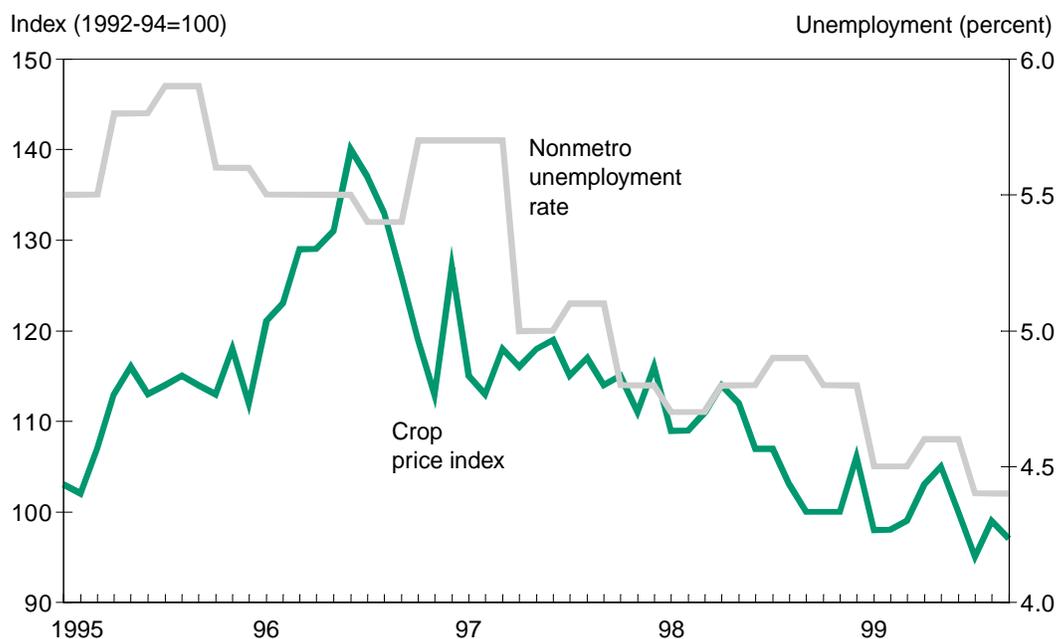
Nonfarm Growth and Structural Change Alter Farming's Role in the Rural Economy

The rural economy continued to grow during the late 1990's, despite low commodity prices that caused economic problems in the farm sector. The resiliency of the rural economy is a reminder that agriculture is not the primary source of economic growth in rural America. Growth in other rural industries and structural changes in the farm sector have reduced farming's importance and altered traditional perceptions of farms. This issue of Rural Conditions and Trends examines the changing role and character of farming and other agriculturally related industries in the United States.

Low commodity prices and the Asian financial crisis buffeted rural America during the late 1990's, but the strength of the U.S. economy as a whole sustained the rural economy. Falling prices for many farm commodities have caused considerable hardship in recent years, but the hardship has largely been confined to the farm sector and closely related industries. USDA's index of prices received by farmers for all crops fell to less than 90 (1990-92=100) in late 1999 (indicating that crop prices were more than 10 percent below their level for the years 1990-92) after having reached 140 in 1996 (fig. 1). In most rural communities, problems in the farm sector have not spilled over to cause a general rural downturn. In fact, the rural unemployment rate fell at the same time crop prices were falling, dropping to about 4.25 percent in 1999. Knowledgeable commentators quoted in the news media and in financial publications have observed that some farmers, induced by the combination of low farm prices and nonfarm job growth, have sold off their farm assets and taken nonfarm jobs.

This issue of *Rural Conditions and Trends* examines the changing role of agriculture in the rural economy. While many people view "rural" and "agriculture" as being virtually synonymous, the ability of the rural economy to shake off severe problems in the agricultural sector is a reminder that agriculture is no longer the primary economic engine of rural America. The articles in this issue draw upon a number of different research programs and data sources from the Economic Research Service and other government agencies to look at agriculture's economic role from different perspectives.

Figure 1
Prices received by farmers for all crops and nonmetro unemployment rate, 1995-99
A downturn in crop prices buffeted the farm sector, but nonmetro unemployment declined, illustrating continued overall health of the rural economy



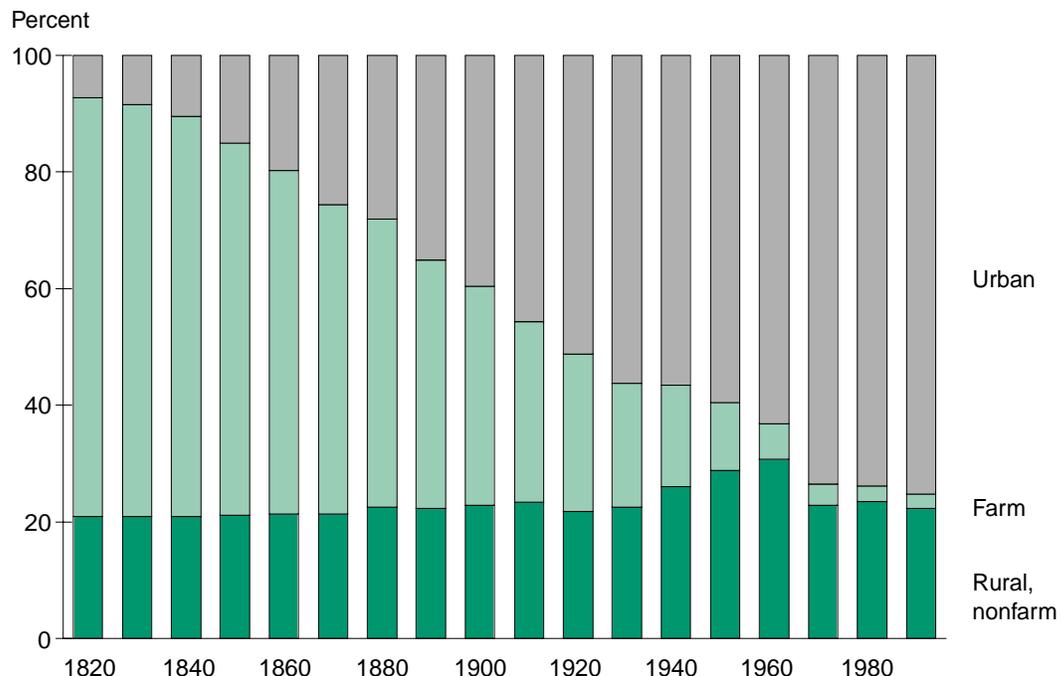
Source: ERS analysis of U.S. Department of Agriculture and Current Population Survey data.

While recent fluctuations in farm prices have had important short-term effects on U.S. agriculture, this issue looks at how the role of agriculture in the rural economy has gradually evolved over the past several decades. Our definition of “agriculture” includes not only farms, but also the complex system of businesses that manufacture, transport, and market food and fiber products. This issue highlights two changes. First, the nonagricultural economy in rural America has grown steadily, outpacing growth in agriculture, so that agriculture’s relative importance as a source of jobs and income has been reduced. Second, farms and agribusinesses are becoming closely integrated with the rest of the economy as they respond to external pressures. Rising wages in other occupations draw workers out of farming. Urbanization increases competition for use of farmland and constrains farmers in how they operate their businesses. Health concerns and changing consumer tastes give rise to demands for specific attributes in food products. As a result, agricultural businesses no longer conform to traditional perceptions.

Agriculture’s Share of the Economy Shrinks

It is well known that over the past two centuries the United States has evolved from a rural society with almost all of the population engaged in farming to a predominantly urban society. The urban share of U.S. population rose from less than 10 percent in 1820 to about 75 percent in 1990, while the farm share of population fell from about 75 to 2 percent over the same period (fig. 2). While growth in population and income created new demand for food and fiber as the Nation grew, growth in agriculture was limited by the fact that demand for food grows more slowly than demand for other goods and services as incomes rise. Other sectors expanded much more rapidly than agriculture. Furthermore, farm productivity (output per unit of input) rose faster than the demand for food and fiber, releasing labor and capital to be put to work in other industries. These two effects have meant that the farm population did not have to grow as fast as the population it was supplying with food. As growth in farm productivity accelerated in the 20th century, the farm population actually declined in absolute numbers after the 1930’s. ERS research has

Figure 2
U.S. urban, farm, and rural nonfarm population shares, 1820-1990
The rural nonfarm share of U.S. population has been surprisingly stable



Source: Census of Population data obtained from Woods and Poole Economics.

found that farm productivity rose an average of 1.9 percent from 1948 to 1994, one of the fastest rates of growth of any sector (see M. Ahearn and others, *Agricultural Productivity in the United States*, AIB-740, USDA/ERS, January 1998). The productivity of all farm inputs rose, but increase in labor productivity was particularly rapid. The farm sector produced more than twice as much output in 1994 (in inflation-adjusted terms) as it did in 1948, but with only 29 percent as much labor.

High farm productivity benefits consumers by ensuring an abundant supply of food at low prices. Other sectors (and ultimately consumers) benefit from farming's efficient use of resources, which frees up labor and capital for other industries (initially for manufacturing in the 1940's to 1960's and more recently for service industries). Agricultural exports also make an important contribution to the balance of trade. However, despite agriculture's important role, its *share* of the economy and the number of people that depend on it for income and jobs is shrinking, both nationally and in rural areas. The Bureau of Labor Statistics (BLS) projects a 1-percent decline in agricultural employment between 1998 and 2008 (see Allison Thomson, "Industry Output and Employment Projections to 2008," *Monthly Labor Review*, November 1999, pp. 33-50). BLS projects a 13-percent decline in employment of farmers, the largest projected decline of any occupation. Employment of farm workers is projected to decline 6.6 percent, and jobs in food and kindred products manufacturing are projected to grow by only 2 percent. By comparison, nonfarm employment is projected to grow 14 percent between 1998 and 2008. Agricultural output is expected to grow, but at a slower rate than that of most other industries.

The decline in farm population share shown in figure 2 reflects the movement of farm labor into other sectors. What is less well known is that the rural *nonfarm* share remained remarkably stable at around 22 percent. While farming is perhaps the most visible rural activity, it is clearly not the only economic activity in rural America. There is enough activity in rural America to support over one-fifth of the Nation's population, but farming supports only about 2-3 percent. Rural areas have created enough new economic opportunities to maintain a constant rural nonfarm share of population, but rural nonfarm jobs were not created fast enough to absorb most of the labor released from the farm sector. Consequently, the overall rural share of population fell. In recent decades, many small communities built to serve the 19th century's farm population have become nonviable due to population loss and geographic concentration of fewer, larger firms supplying wider and wider market areas. Much rural development activity is concerned with how to create jobs in those communities.

Fewer Communities Rely on Farming

In most rural communities, nonfarm growth has reduced their economic dependence on farming. However, farming is still a primary source of income and jobs in some areas, mostly in sparsely populated areas of the Nation's heartland. "Economic Growth in Farming Areas Lags the Rest of Rural America," in this issue, takes a look at how the counties classified by ERS in 1989 as "farming dependent" have fared during the 1990's. The Nation's economic expansion during the 1990's appears to have reduced the number of farming-dependent counties by adding jobs in manufacturing and services. (Definitional changes in the way the data are reported since the 1989 classification make meaningful comparisons over time problematic.) Counties that remained in the farming-dependent category shared in the Nation's economic growth during the 1990's, but to a lesser extent than other rural counties.

Of course, agriculture's economic influence extends far beyond the farm gate. ERS produces two measures of employment in the more broadly defined agriculture sector: Food and Fiber System and Farm and Farm-Related Employment. This issue includes articles that report State-level changes in these agricultural job totals over the past two decades. Both data series tell a similar story. Jobs in farming have declined steadily, while jobs in food retail and wholesale sectors have grown. Retail and wholesale activities tend to locate close to consumers, so much of the growth in agriculturally related employment has occurred in more urbanized areas. Sparsely populated States, including those heavily

represented in the farming-dependent category, have gained relatively few retail and wholesale jobs to offset their loss of farm jobs.

Faced with the continual loss of farm jobs, many rural areas have pursued value-added development strategies that encourage agriculturally related businesses (food processing and marketing) to choose rural locations. This strategy may be successful for some communities, but food processing does not appear promising as an engine for rural job growth. Many types of food processors do not use raw farm commodities and choose urban locations to gain access to suppliers of other inputs and distribution networks. While rural areas gained jobs in food and other types of manufacturing during the 1990's, service industries have generated much of the recent job growth in both urban and rural areas. The BLS employment projections cited earlier in this article predict an increase in service jobs of 2.8 percent per year between 1998 and 2008, but job growth is not expected to occur in most food manufacturing sectors.

External Pressures Reshape the Farm Sector

The agricultural sector is not a compartmentalized sector, distinct from the rest of the economy. Like other businesses, farms are under pressure to raise productivity, adopt the latest technologies, raise quality standards, respond to changing consumer tastes, and exploit economies of scale. As they do so, farms are becoming more integrated into the general economy. They are looking more like manufacturing businesses and less like traditional perceptions of "family farms." The declining number of people who work primarily in farming is one of the most noticeable effects of these pressures. "Small and Large Farms Both Growing in Number" shows that the apparent stability in number of farms between 1992 and 1997 hides differing underlying trends. Farms operated by people who consider farming their principal occupation continued to fall between 1992 and 1997, while the number of farms operated by people primarily employed elsewhere rose. Much of the adjustment in farm numbers occurs through a demographic process, as fewer new young farmers enter to replace retiring farmers. BLS data measuring the number of people employed in farming by age group provide a more accurate count of young farmers, who are often missed by the census, but this data series also shows a decline in young farmers.

Computers have revolutionized the way most businesses operate in the 1990's. But analysis in this issue suggests that relatively few farms have taken full advantage of information technology. USDA survey data from 1999 show that more than 40 percent of farms have computers, but less than one-fourth have incorporated computers into their business operations. Most seem to have adopted computers piecemeal for bookkeeping or other applications without using information systems to integrate production, marketing, and financial data. Full use of computer technology can improve efficiency of farm operations and give farm household members the skills they need to compete for well-paid jobs outside the farm sector.

Another notable trend in agriculture is the increased use of marketing and production contracts. Contracting is not a new phenomenon, but it has become more prevalent in some sectors, most notably the hog sector. Many processors have turned to contracting in order to increase efficiency and ensure steady supply of commodities with attributes needed for specific food products demanded by consumers. Contracting changes the way farms operate, reducing farm operators' independence and forging closer ties to agribusinesses. Contracting has been associated with geographic shifts in production of hogs and other commodities, and large livestock operations associated with this trend have created environmental concerns.

Nonfarm sectors have been drawing labor out of agriculture for decades while the agricultural land base has remained relatively stable. In recent years, however, conflicts over urban encroachment on farmland have arisen in more rural communities. ERS research reported in this issue estimates that urbanization pressures from residential, commercial, and industrial development drive up farmland values by 25 percent, on average. For the 17 percent of farmland classified by ERS as "urban-influenced," urbanization effects

account for about two-thirds of per acre land value. Urbanization affects geographic patterns of farm production, encourages growth in the number of small farms, and leads to conflicts over waste disposal, chemical use, odors, water quality, and other issues. Farmland protection is an important concern for policymakers in Federal, State, and local governments.

Economic Census Data Provide a Snapshot of U.S. Industry

This issue also reports on how new 1997 Economic Census data can be used to analyze trends in rural industry. The Census Bureau began publishing the data in 1999 and will continue publishing reports through 2000 and 2001. One article describes the data and the new North American Industrial Classification System (NAICS) that replaces the Standard Industrial Classification (SIC). Two additional articles provide examples of how Economic Census data can be used to analyze manufacturing and retail industries.

This issue reports the most recent data on nonmetro earnings and employment, farm- and farm-related employment, food and fiber system employment, and jobs related to agricultural trade. Between 1996 and 1997, the most recent years available, nonmetro employment grew by 2.0 percent, slightly slower than metro growth of 2.3 percent. All nonfarm, nonmetro sectors and regions added jobs in 1997. The agricultural services, forestry, fishing, and other category had the fastest growth in jobs, followed by the finance, insurance, and real estate, and transportation and public utilities sectors. Both metro and nonmetro job growth was fastest in the Rocky Mountain, Southwest, and Far West regions. Nonmetro earnings per job also grew in all sectors except transportation and public utilities. Earnings growth was fastest in manufacturing and wholesale trade, the only sectors where earnings per job grew more than 2 percent in 1997. Earnings per job grew in all regions, but at a slower rate than metro earnings. Overall, nonmetro real earnings per job grew 1.3 percent, the first increase following several years of small declines from 1993 to 1996. *[Fred Gale, 202-694-5349, fgale@ers.usda.gov]*